

NASA Administrator's Fellowship Project (NAFP)
Administered by UNCF Special Programs Corporation (UNCFSP)
Type of Agreement: Cooperative Agreement
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PROJECT DESCRIPTION

The NASA Administrator's Fellowship Project (NAFP) enhances the professional development of NASA employees and the Science, Technology, Engineering, and Mathematics (STEM) faculty at Minority Institutions (MIs). The project also increases the capability of MIs to respond to NASA's research, development, and to strengthen their curricula to better prepare students to enter NASA and the Nation's STEM workforce.

NASA Career Employees – NASA career employees teach and conduct NASA related research at MIs for up to two academic years. They also assist in administrative roles, recruit students for NASA internships, cooperative education, fellowships, and competitions, and they mentor students in projects such as the Harriet G. Jenkins Pre-doctoral Fellowship Program. The NAFP builds and sustains partnerships between minority institutions, the community, and NASA. Employees generally spend the second part of the fellowship on developmental assignments at NASA Headquarters, other federal agencies or in industry.

STEM Faculty of Minority-Serving Institutions – The participation of faculty scientists, mathematicians, and engineers from Minority Institutions is intended to enhance the basic research and management capability of the institutions to engage in science and technology research and development in support of NASA and other federal agencies. Fellows are provided with opportunities to interface with high level NASA and other government officials, to participate in NASA's research and development, and to learn about innovative scientific and engineering research methods. Faculty fellows are also offered professional development in the areas of project management and research proposal writing.

PROJECT GOALS

The encompassing goal of NAFP is to enable MIs to participate fully in NASA's efforts toward fulfilling its mission. To do this, NAFP aims to increase the research capacity of MIs, develop leaders within NASA and at the MIs, leading to a significant impact on the NASA pipeline. NAFP's three goals envelop these aims and guide the formation and direction of program activities. The program objectives describe how the goals will be attained.

Goal 1: Build the research capacities of MIs to respond to and engage in NASA research

- a. Develop STEM infrastructure to support NASA-related research and development
- b. Engage in activities that increase or enhance research conducted at MIs
- c. Create sustainable partnerships between MIs and NASA and/or industry

Goal 2: Develop leaders and change agents that will have the capability to positively impact NASA and MIs

- a. Align MIs research focus with NASA vision and mission
- b. Develop skills and competencies in project management and leadership
- c. Develop an action plan, including a schedule, on how they will apply professional development skills when fellowship term concludes
- d. Develop cultural competence necessary to negotiate academic, public, and private environments

Goal 3: Positively impact the NASA pipeline

- a. Develop and present projects, programs, or activities designed to increase K-12 interest in NASA
- b. Mentor Harriett G. Jenkins Pre-Doctoral Fellowship Program fellows and assist participants in other programs such as Curriculum Improvement Partnership Award (CIPA) students, Graduate Student Researcher's Project and MUST.
- c. Establish research collaborations that will provide research opportunities for additional faculty, students, and other stakeholders at NASA or in STEM fields.

PROJECT BENEFIT TO OUTCOME (1, 2, OR 3)

Outcome #1: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals, through a portfolio of investments.

NASA's "Vision for Space Exploration" drives and prioritizes its research and educational initiatives, but it also acts as a catalyst for promoting and advancing STEM awareness and competence. The NAFP is a "mission support" program, enhancing partnerships and collaborations between NASA and Minority Institutions that lead to increased diverse participation in the space exploration vision. Thus, NAFP provides the forum for NASA-driven research experiences, professional development, networking, and communication exchange that provides the following return on investment to NASA:

- Increased number of MI faculty engaged in and furthering NASA-related research
- Increased number of NASA employees familiar with and able to capitalize on the research capabilities and competencies of MIs
- Increased sustained university research support for NASA's missions and programs
- Increased research experiences for students that translate into a more prepared STEM workforce to continue NASA's mission

In addition, to continue the development of the fellow and to further engage MIs in NASA-related research, faculty fellows are eligible to compete for \$25K research awards in the last year of their fellowship.

PROJECT ACCOMPLISHMENTS (Connection Back to Annual Performance Goals and Plans)

As NASA's signature Mission Support professional development program, NAFP has helped NASA and MIs to meet the science and technology challenges confronting our Nation. The original NAFP goal was to increase the capability of MIs to respond to NASA's overall research and development mission. Measurable outcomes in NAFP's 10 year existence follow.

- Since inception, the NAFP has provided research opportunities and professional development training, and networks to 98 outstanding scholars. NAFP has supported MI's infrastructure building by developing 26 partnerships and MOUs.
- Research funding acquired through NAFP collaborations and partnerships include 2 NASA University Research Center Awards, 3 FAR Awards, 1 SEMMA, 1 CIPA and 1 PAIR award. **Recently 3 NAFP fellows won URC grant awards for their institutions.**
- Five NAFP fellows were awarded URC grants for their institutions in previous solicitations. A NAFP Fellow was instrumental in the curriculum development of the first Bachelor of Science degree in Engineering to be offered at a Tribal College.
- NASA Employee and Faculty Fellows have used their NAFP experience to obtain additional research grants and fellowships from NSF, NASA, DOE and industry.
- Fifteen percent (15%) of NAFP Fellows have gained national recognition and honors for their excellence in science, engineering and technology
- The female participants in the NAFP have formed the NAFP Women's Consortium, a new initiative that focuses on the recruitment, retention, education, and mentoring of women enrolled at minority institutions majoring in the STEM disciplines.
- Ten percent (10%) of NAFP Employee Fellows have been promoted to GS- 14&15, Project Managers, Branch Chiefs and/or Team Leads. Twenty percent (20%) of NAFP Faculty Fellows have been promoted to Associate Professor, Professor, Department Head and/or Dean. One was invited to serve as a Visiting Professor at the host MI following the NAFP fellowship.
- More than 20 NAFP Fellows have received NAFP Faculty Research Awards and returned to their home institutions with \$25K in research funds. Thirty percent (20%) of these research awards were matched with additional funds from NASA.
- NAFP Fellows have consistently authored or co-authored research in peer-reviewed, technical journals and given presentations at major technical conferences.
- More than 70% of the NAFP Fellows served as technical monitors and mentors for students participating in NASA-based projects such as BallonSat, Reduced Gravity Student Flight Project and the University Student Launch Initiative.
- NAFP Fellows have taught/co-taught over 50 courses at MSIs.
- NAFP Fellows formally serve as mentors to 50% of the NASA-Harriett G. Jenkins Predoctoral Fellowship scholars.
- NAFP Fellows have performed outreach activities in over 40 elementary schools, secondary schools, and youth groups across the United States and Puerto Rico.
- The NAFP fellows contribute to NASA diversity goals. The current ethnic breakdown is 46% Black, 12% Hispanic, 22% White, and 10% Other
- All 10 NASA Centers and NASA Headquarters played active roles in enhancing the professional development of NAFP Fellows

- Two NAFP Employee Fellows returned to school after their fellowship tenure and have received their Ph.D. degrees; two NAFP fellows are currently pursuing Ph.D. degrees.

PROJECT CONTRIBUTIONS TO PART MEASURES (Include Data Plus Explanation)

For the period: October 1, 2007 to March 2008

Total # participants reported FY07 (Cohorts 9/10): 18
 # Still in school: 0
 # Eligible for workforce: 18
 1.2.2: # Employed at NASA: 10
 1.2.2: # Employed in Aero Industry: 0
 1.2.2: # Employed at Educational Institutions: 8
 1.2.2: # Employed at other STEM industry: 0
 Total # NASA/Aero/STEM/Ed. Inst.: 8
 # Other/Seeking Emp./Non-Respondent: 0
 1.2.2 Baseline FY06: 14
 1.2.2 Expectation for FY07: 24
 1.2.2 Actual #s for FY07: 18
 1.2.2 Delta: 0
 1.4.1: # STEM courses new or revised Baseline FY06: 0
 1.4.1: # STEM courses new or revised/Expectations FY07: 0
 1.4.1: # STEM courses new or revised/Actual FY07: 2
 1.4.1: # STEM courses new or revised/Delta FY07: 2
 1.5.2: # Underserved/underrepresented students participating/Baseline FY06: 0
 1.5.2: # Expectations for FY07: 24
 1.5.2: Actual #s for FY07: 18
 1.5.2: Delta: 0
 1.5.2: # MSIs participating: 14

Notes: NAFP data for participants in Cohorts 9 and 10. Expectations based on the total of 12 slots available per cohort.

For the period: October 1, 2006 to September 30, 2007

Total # participants reported/Baseline FY06: 0
 Total # participants reported (FY07): 18
 # Still in school: 0
 Total # participants Delta: 18
 1.2.3: # seeking Adv. STEM Degree/Baseline FY06: 0
 1.2.3: # seeking Adv. STEM Degree/Expectation for FY07: 0
 1.2.3: #seeking Adv. STEM Degree/Actual #s for FY07: 0
 1.2.3: #seeking Adv. STEM Degree/Delta: 0
 1.2.5: # participants who were in previous NASA programs/Baseline FY06: 0
 1.2.5: # participants who were in previous NASA program/Expectations for FY07: 0
 1.2.5: # participants who were in previous NASA program/Actual #s for FY07: 0

IMPROVEMENTS (e.g. project management, efficiencies, etc.) MADE IN THE PAST YEAR

1. Stronger, more strategic, recruitment activities resulted in an increased number of employee applications and the largest selection of females in the program's history.
2. The year saw the highest number of fellowship awards (11) in the program's history.
3. Fellows received a more structured set of professional development training experiences under the Special Programs Institute for Advancement (SPIA) Program.
4. For the first time, during this year's annual symposium, private industry organizations attended as exhibitors and sponsors of the conference and the NASA Office of Human Capital provided workshops which have enabled fellows to recruit more effectively for NASA education programs such as co-op, MUST, and summer internships.

PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

United Negro College Fund Special Programs Corporation (UNCFSP) – UNCFSP has administered the NASA Administrator's Fellowship Project (NAFP) since 2000. It has played an integral role in the development and overall success of the project.

The following is a list of institutions and organizations that have partnered with the NAFP over the past 10 years either as a host center/institution or host center/institution.

Alabama A&M University
Alcorn State University
Bennett College
Bethune-Cookman College
California State Polytechnic University
California State University - Fresno
California State University - Fullerton
Central State University
Cheyney University
Chicago State University
Clark Atlanta University
Cranfield University (Shivenham, UK)
Elizabeth City State University
Essex County College
Fisk University
Florida A&M University
Florida International University
Hampton University

Haskell Indian Nations University
Howard University
Institute of American Indian Arts (IAIA)
Inter American University of Puerto Rico
Johns Hopkins University
Lockheed Martin Aeronautics Company
Moog, Inc
Morgan State University
Mote Marine Laboratory
NASA Headquarters
NASA Ames Research Center
NASA Dryden Space Flight Center
NASA Glenn Research Center
NASA Goddard Space Flight Center
NASA Jet Propulsion Laboratory
NASA Johnson Space Center
NASA Kennedy Space Center

NASA Langley Research Center
NASA Marshall Space Flight Center
NASA Stennis Space Center
National Academy of Public
Administration
National Research Council
New Mexico State University
Norfolk State University
North Carolina A&T State University
North Carolina State University
Oakwood College
Prairie View A&M University
Pratt and Whitney
RAND Corporation
Redstone Arsenal
Salish Kootenai College
Sandia National Laboratories
San Francisco State University
Southeastern University
Southwestern Indian Polytechnic
Institute
Spelman College

Star Bridge Systems Inc.
Tennessee State University
Texas A&M University, Corpus Christi
Texas A&M University, Kingsville
Texas Southern University
The Boeing Company
Tuskegee University
U.S. Army Research Development and
Engineering Command (RDEC)
University of Alabama
University of Central Florida
University of Dayton
University of Florida
University of New Mexico
University of Texas-El Paso
University of Puerto Rico–Arecibo
University of Puerto Rico–Humacao
University of Puerto Rico–Mayaguez
University of Puerto Rico–Rio Piedras
University of Southern Mississippi
Veridian Engineering
Xavier University